

REMARKS/ARGUMENTS

The present Amendment is responsive to the final Office Action mailed February 28, 2007 in the above-identified application.

Claim 1 is canceled without prejudice or disclaimer. New claim 7 is added. Therefore, claims 5-7 are the claims currently presented for examination.

Claims 5 and 6 are amended to make them depend from a claim pending in the present application. Claim 5 is further amended to conform it more closely to U.S. patent practice style.

Rejection of Claims 1 and 5-6 under 35 U.S.C. § 103

Claims 1 and 5-6 are rejected under 35 U.S.C. § 103 as being obvious from Lachaux, U.S. Patent No. 4,386,627 in view of Böke, WO 01/07356. Reconsideration of this rejection is respectfully requested.

Claim 1 is canceled without prejudice or disclaimer and therefore the rejection is moot with respect to this claim. Claims 5 and 6 now depend from claim 7.

Claim 7 requires an additional valve positioned in the auxiliary channel formed to close off the auxiliary channel, the additional valve being formed to be opened when, during operation, a second overpressure exists in the tank greater than the overpressure which exists ex works.

Therefore, according to an aspect of applicant's invention as claimed in claim 7, an overpressure inside the tank can simultaneously close off the main valve and open the additional valve. Accordingly, the expansion tank system may be delivered ex works at the required overpressure but the additional valve would function when a greater overpressure exists in the tank. Thus, the additional valve enables reopening of the main valve when, inadvertently, the main valve is shut due to rapid suction of the fluid flowing through the main valve.

Lachaux discloses an accumulator high flow valve of a pressure vessel (Lachaux, Abstract), the vessel having a provision for preventing the main vent 25 from being sucked to a closed position by a strong current (Lachaux, Figures 2 and 3). Lachaux discloses that when there is a high pressure difference between the interior of the vessel 16 and the passage 21 that would tend to slam the main valve, the ball 42 is pressed against the valve seat 44 by fluid 36 which can leave the chamber 33. Thus, Lachaux discloses an apparatus in which fluid is prevented from leaving the chamber 33 too quickly to prevent slamming of the main valve and

damage to the apparatus. At a high pressure difference, the auxiliary channel is closed because the ball 42 is up at the valve seat 44.

Böke discloses a dispensing system for a petrol pump that includes a bypass valve in addition to the principal valve as well as a check valve 42'. As shown in Böke, Fig. 2, the check valve '42 acts as a measuring limit valve and is integrated in the sealing body 22' of the principal valve 18'. In case of a rapid increase in pressure in the outlet duct 14' with the dispensing valve closed and the solenoid valve closed, for example, due to an expansion of the fuel due to external conditions, fuel is allowed to get from the outlet duct 14' into the inlet duct 12' via the check valve 42' so as to prevent damage to the dispensing valve or the solenoid valve 10' (Böke, column 3, lines 25-32).

Böke does not disclose or suggest an additional valve positioned in the auxiliary channel formed to close off the auxiliary channel, the additional valve being formed to be opened when, during operation, a second overpressure exists in the tank greater than the overpressure which exists ex works, as recited by claim 7.

First, as discussed, Böke discloses that the check valve 42' is opened when the outlet duct 14' has a relative high pressure. In the system of Böke, an overpressure on one side of the main valve cannot close the main valve and at the same time open the auxiliary valve, regardless of on which side of the main valve the overpressure exists. This is because, in the system of Böke, the bypass valve 42' opens in the same direction as the main valve. As shown in Fig. 2, the check valve 42' works as follows: A high pressure in the outlet duct 14' acts to shift a ball of the check valve 42' to the right, counter to the spring force exerted on the ball, so that the check valve 42' is opened until the pressure in the outlet duct 14' again decreases below a predefined value as set in the spring, thus ensuring that the pressure in the outlet duct 14' does not exceed a certain value, while the principal valve 18' and the bypass valve 30' are prevented from being opened by the high pressure prevailing in the outlet duct 14' (Böke, column 3, lines 32-41).

Thus, Böke discloses that high pressure at the outlet duct 14' connected to the petrol dispensing nozzle 13' (for example, due to the expansion of the petrol due to strong insolation (heat from sunshine) or due to a car running over a hose) can force open the check valve 42' to allow liquid to flow back toward the inlet duct 12'. As discussed, according to an aspect of applicant's invention as claimed in claim 7, the additional valve opens under the influence of a pressure which closes the main valve.

Second, even taken together in combination, Lachaux and Böke do not teach the feature of an additional valve operable to be opened by pressure at a threshold value greater than some other pressure. That is, Lachaux and Böke do not teach a second overpressure in the tank greater than the overpressure which exists ex works, as required by claim 7. In Böke's system, the threshold value of the bypass valve 42', while not made explicit, may be merely related to the strength of the main valve. Accordingly, even taken together in combination, Lachaux and Böke do not disclose or suggest the recitations of claim 7.

Lack of Motivation for Combining

Böke relates to the field of petrol supply installations, which is a different field of technology from Lachaux. Accordingly, it is respectfully submitted that Böke is in a non-analogous art and, accordingly, there would have been no motivation or suggestion for combining the teachings of Böke with those of Lachaux to arrive at the proposed combination.

Further, Böke discloses that the main valve is operated by an electromechanical device. Therefore, for this additional reason too, there would have been no motivation or suggestion for a person of ordinary skill in the art to combine the electromechanical device-operated main valve of Böke with the main valve of Lachaux. Accordingly, the recitations of claim 7 would not have been obvious based on Lachaux and Böke.

In view of the foregoing discussion withdrawal of the rejections and allowance of the application are respectfully requested.

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Respectfully submitted,



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